Handpieces, Electric

Purchasing Electric Handpieces for Restorative Procedures (11/03)

Question: Our clinic is considering the purchase of an electric handpiece for restorative procedures. Does DIS have a recommendation?

Answer: Due to equipment limitations, DIS has not yet performed any extensive in-house laboratory testing on electric-restorative handpieces. However, we have obtained feedback from some of the few military bases that are using electric systems. Electric handpieces are increasing in popularity and are now being marketed by manufacturers who have traditionally produced only air-turbine handpieces. Electric handpieces provide excellent power and torque over a wide range of speeds, allowing the operator to select the appropriate revolutions-per-minute (RPM) for the procedure at hand. By using attachments with different gear reduction ratios, one system can provide high-speed, slow-speed, and even endodontic rotary capability. Drawbacks of electric systems are that the handpieces are typically larger and heavier than air-turbine handpieces. Furthermore, electric-system implementation sometimes requires a significant learning curve and you must be prepared to spend more time on maintenance and sterilization procedures. If you have any questions about specific systems you may contact the DECS staff.

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Electric versus Air-Driven Surgical Handpieces (Originally published in Jan 2001)

Question: Our current surgical handpieces are nearing the end of their projected life cycle and we want to replace them. It seems that many USAF facilities are now using electric surgical handpieces. I have heard rumors that the electrical handpieces have had some problems. Can we still purchase air-driven surgical handpieces or is it recommended that we buy electric ones?

Answer: Air-driven surgical handpieces are still dependable workhorses in many USAF dental clinics. They provide excellent torque, usually have low maintenance requirements, and can be easily sterilized. A disadvantage with them, however, is that some providers find them to be noisy. Also, they require access to a central nitrogen source or a mobile nitrogen tank. Because of these drawbacks, some clinics have purchased electric surgical handpieces. They are quiet, portable, do not require a bulky handpiece air hose, and do not require access to a compressed air source. One disadvantage of electric surgical handpieces is that they do not seem to hold up autoclave sterilization as well as their air-driven counterparts. This may be contributing to the reports DIS occasionally receives about electric surgical handpieces breaking down more frequently than air-driven ones. An important thing that should be kept in mind when choosing an electric surgical handpiece is that it must be returned periodically to the manufacturer for maintenance. The meaning of "periodically" can vary from manufacturer to manufacturer, so before you purchase a specific brand of electric surgical handpiece, it is important to ask the manufacturer how frequently they recommend maintenance. Consultation with Col Wendell Edgin, Oral and Maxillofacial Surgery Consultant to the USAF Assistant Surgeon General for Dental Services, indicates that there is no central guidance concerning the purchase of surgical handpieces. In other words, local dental facilities can purchase whichever handpiece system they desire based on user preferences. Wilford Hall Medical Center still uses air-driven surgical handpieces due to their dependability and ability to withstand sterilization. Of course, it is always a good idea to know the advantages of disadvantages of each type of handpiece prior to making a procurement choice. For information on specific brands of electric surgical handpieces, please refer to *DIS* 50-31 or call DIS.

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